

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-011579**Date Inspected:** 21-Jan-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Li Yang and Wu Zhi Cheng	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes No N/A	
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes No N/A	
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes No N/A	
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes No N/A	
		<b>Delayed / Cancelled:</b>	Yes No N/A	
<b>Bridge No:</b>	34-0006	<b>Component:</b>	OBG Trail Assembly	

**Summary of Items Observed:**

Segment 6CE (Side Panel T-Ribs)

This Quality Assurance (QA) Inspector witnessed final tension verification for Side Panel T-Ribs (Total 19 Nos.) Cross Beam side between Panel Point (PP) 45.5 and PP 46 for Segment 6CE. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00238 Dated January 21, 2010.

Bolt sizes used were M22 x 65 RC Set# DHGM220033 and final torque required was 470 N-m.

Manual Torque wrench was been used with Sr. No. XQ2-762.

Note: The 13th, 14th, 18th and 19th T-Rib bolts not installed due to dimension issues (which is exceeding the requirements laid out in RFI No. 2004R0) and thus not offered by ZPMC for inspection. The offset measurement were performed from 1st T-Rib (Longitudinal Diaphragm) towards 19th T-Ribs Side Panel side and recorded offset as

1st T-Rib: 1.5mm; 2nd T-Rib: 2mm; 3rd T-Rib: 1.5mm; 4th T-Rib: 1.9mm; 5th T-Rib: 2mm; 6th T-Rib: 2mm; 7th T-Rib: 3.5mm; 8th T-Rib: 3.1mm; 9th T-Rib: 2.7mm; 10th T-Rib: 2.3mm; 11th T-Rib: 3mm; 12th T-Rib: 3.4mm; 15th T-Rib: 3.8mm; 16th T-Rib: 3.2 mm; 17th T-Rib: 3mm.

Segment 6BW to 6CW

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## WELDING INSPECTION REPORT

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This QA Inspector observed ZPMC welding personnel performing repair welding by Shielded Metal Arc Welding (SMAW) for Temporary attachment removed area and Visual discontinuities marked by ZPMC CWI at Side Panel Counter Weight side. The weld joints are identified as OBE6C-002 and OBW6C-001. The welder is identified as 062092. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-4G (4F)-Repair. The repair welding was performed against Critical Welding Repair Report no. B-CWR 1098 Rev.0 Dated 01/13/2010. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 6BE to 6CE

This QA Inspector observed ZPMC welding personnel performing repair welding by Shielded Metal Arc Welding (SMAW) for Longitudinal Diaphragm weld connecting Web to Floor Beam at Cross Beam side. The weld joints are identified as SEG0303B-011. The welder is identified as 048659. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-345-SMAW-3G (3F)-Repair-1. The repair welding was performed against Welding Repair Report no. B-WR 9695 Rev.0 and Ultrasonic Test (UT) report no. was B787-UT-10551. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 6CE to 7AE

This QA Inspector observed ZPMC welding personnel performing repair welding by Shielded Metal Arc Welding (SMAW) for Longitudinal Diaphragm Flange to Floor Beam Cross Beam side. The weld joints are identified as SEG032D-011. The welder is identified as 037743. In process SMAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-P-2114-Tc-U4b-FCM-1. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 7AE to 7BE

This QA Inspector observed ZPMC welding personnel performing repair welding by Flux Cored Arc Welding (FCAW) for Side Panel Transverse Splice weld Cross Beam side. The weld joints are identified as OBE 7B-002. The welder is identified as 220066 and 220067. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-T-2233T. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 7AE to 7BE

This QA Inspector observed ZPMC welding personnel performing repair welding by Flux Cored Arc Welding (FCAW) for Side Panel Corner Assembly Transverse Splice weld Cross Beam side. The weld joints are identified as OBE 7B-001. The welder is identified as 053742 and 037705. In process FCAW appears to be progressing in compliance with Caltrans Engineer Approved welding procedure i.e., WPS-B-T-2233T. It was observed that the parameters noted down by ZPMC QC are in compliance with WPS.

Segment 6CE

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This QA Inspector observed ZPMC personnel at Segment 6CE side panel T-Ribs between PP 45 to 45.5 and bolts snug tightening is in progress.

### Segment 6CW

This QA Inspector observed ZPMC personnel at Segment at Panel Point (PP) 45 clips connecting Side Panel T-Ribs to floor beam ASTM A 325 bolts installation is in progress.

### Segment 6CW

This QA Inspector observed ZPMC personnel at Segment 6CW at PP 47 Lower Chevron Cross Beam side splice plate installation is in progress.

### Segment 6BW to 6CW

This QA Inspector observed ZPMC personnel at Segment 6BW to 6CW at Side Panel counter weight side visual discontinuities and temporary attachments removed area repair welding is in progress against approved B-CWR1098 Rev. 0 Dated Jan 13, 2010.

### Segment 6BE

This QA Inspector observed ZPMC personnel at Segment 6BE to 6CE at Longitudinal Diaphragm at E3 location Ultrasonic Test (UT) rejected area at Y Datum 40 mm and 200mm repair welding is in progress at web to floor beam.

### Segment 6CE to 7AE

This QA Inspector observed ZPMC personnel at Segment 6CE to 7AE at Longitudinal Diaphragm (LD) at E3 location LD to flange to floor beam welding is in progress.

### Segment 7AE to 7BE

This QA Inspector observed ZPMC personnel at Segment 7AE to 7BE side panel transverse splice cross beam side OBE7B-002 and OBE7B-001 welding is in progress.

Note: Observed that Lift 5 East and Lift 5 West been relocated from earlier location for painting, blasting and miscellenous work.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

No relevant conversations.

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## WELDING INSPECTION REPORT

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### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Math,Manjunath
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Quality Assurance Inspector
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<b>Reviewed By:</b>	Miller,Mark
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QA Reviewer
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